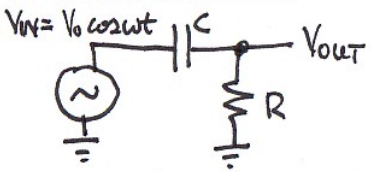
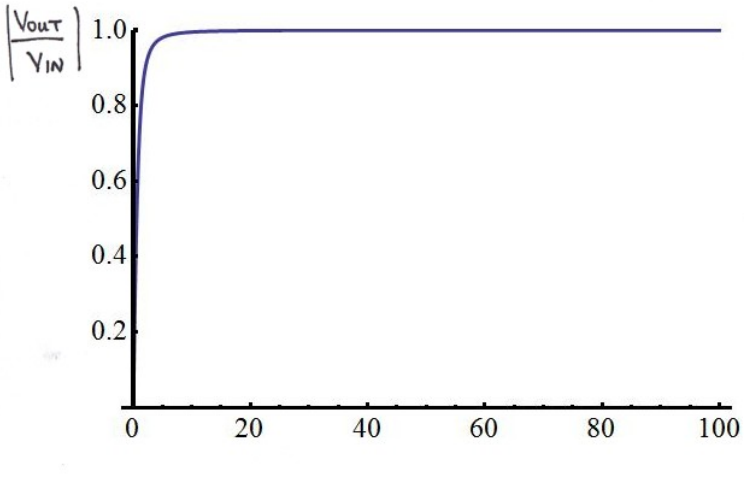
Physics 213a-2011 Class 5 Friday 9-9-11 Summary

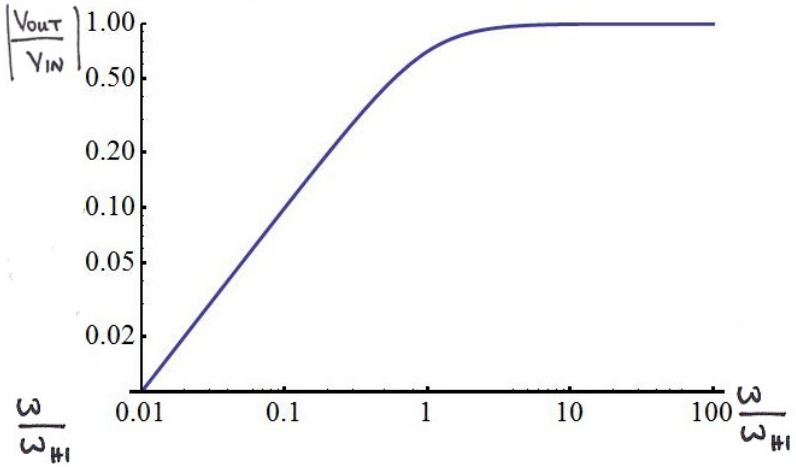
high-pass filter



$$\left|\frac{V_{OUT}}{V_{IN}}\right| = \sqrt{\frac{1}{\left(\frac{\omega_{HI}}{\omega}\right)^2 + 1}}$$

where $\omega_{HI} \equiv \frac{1}{RC}$

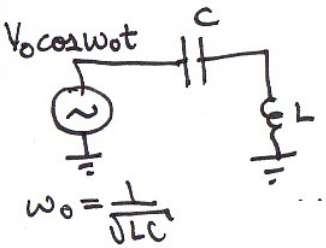




Impedance of an inductor

$$V_L = L\dot{I}, \quad \tilde{V} = \tilde{I}Z \longrightarrow \boxed{Z_L = i\omega L}^{**}$$

Example:



$$\omega_0 = \frac{1}{\sqrt{LC}}$$